- Permitting of municipal and industrial wastewater discharges in the Delta or its tributaries to control loadings;
- Three primary agricultural drainage programs (Drainage Reduction Program, Rice Herbicide Program, and Habitat Enhancement Landowner Program) to improve drainage water quality; and
- Upgrading water treatment facilities and developing source water assessment programs.

ES.3.5 Current Water Quality Conditions

The analysis of existing water quality data indicated that there is a wide range of water quality conditions to be addressed throughout the Bay-Delta problem area. The major water quality issues recognized to be of concern in the Delta can be summarized in terms of parameters of concern, beneficial uses impacted, and general sources of the constituent or area impacted. Provided below are the significant water quality issues resulting from this analysis.

- High-salinity water from Suisun and San Francisco Bays intrudes into the Delta during periods of low Delta outflow. Salinity adversely affects agricultural, municipal, recreational, industrial, and environmental uses.

- Delta exports have concentrations of dissolved organic carbon (DOC) which are comparable to average DOC concentrations found in raw water sources within the Western United States. DOC, when chlorine is used as a disinfectant, is a disinfection by-product (DBP) precursor, and as a result of seawater intrusion, the potential for formation of brominated DBPs increases along with increases in concentrations of the precursor bromide (Br^-), which originates in seawater.

- Synthetic and natural contaminants have accumulated in Delta sediments and can bioaccumulate in fish and other aquatic organisms. Synthetic organic chemicals and heavy metals (e.g., mercury) are found in Delta fish in quantities that occasionally exceed acceptable standards for food consumption.

- Agricultural drainage in the Delta contains high levels of nutrients, suspended solids, dissolved organic carbon, salinity, and ~~may~~often contains traces of agricultural chemicals (e.g., pesticides). The San Joaquin River delivers water of relatively poor quality to the Delta; agricultural drainage to the river is a significant source of salts and pollutants, including selenium, boron, and pesticides. The Sacramento River contributes some pesticide loading as well.

- Remnants of ~~H~~historical mining activities (e.g., tailings piles, old mines, and debris) are a source of heavy metals, including cadmium, chromium, copper, mercury, and zinc.

- Populations of striped bass and other species have declined significantly from historical levels. Causes of the declines are uncertain, although water quality conditions in the Bay and Delta